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Subpart A—General Provisions

§ 431.1 Purpose and scope.

This part establishes the regulations for the implementation of Part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311–6316, which establishes an energy conservation program for certain industrial equipment.

§ 431.2 Definitions.

For purposes of this part, words shall be defined as provided for in section 340 of the Act and as follows—

Accreditation means recognition by an accreditation body that a laboratory is competent to test the efficiency of electric motors according to the scope and procedures given in Test Method B of IEEE Standard 112–1996, *Test Procedure for Polyphase Induction Motors and Generators*, and Test Method (1) of CSA Standard C390–93, *Energy Efficient Test Methods for Three-Phase Induction Motors*.

Accreditation body means an organization or entity that conducts and administers an accreditation system and grants accreditation.

Accreditation system means a set of requirements to be fulfilled by a testing laboratory, as well as rules of procedure and management, that are used to accredit laboratories.

Accredited laboratory means a testing laboratory to which accreditation has been granted.

Act means the Energy Policy and Conservation Act of 1975, as amended (42 U.S.C. 6291 *et seq.*).

Alternative efficiency determination method or *AEDM* means a method of calculating the total power loss and average full load efficiency of an electric motor.

Average full load efficiency means the arithmetic mean of the full load efficiencies of a population of electric motors of duplicate design, where the full load efficiency of each motor in the population is the ratio (expressed as a percentage) of the motor's useful power output to its total power input when the motor is operated at its full rated load, rated voltage, and rated frequency.

Basic model means all units of a given type of covered equipment (or class thereof) manufactured by a single manufacturer, and, with respect to electric motors, which have the same rating, have electrical characteristics that are essentially identical, and do not have any differing physical or functional characteristics which affect energy consumption or efficiency. For the purpose of this definition, ''rating'' means one of the 113 combinations of an electric motor's horsepower (or standard kilowatt equivalent), number of poles, and open or enclosed construction, with respect to which § 431.42 prescribes nominal full load efficiency standards.

Certificate of conformity means a document that is issued by a certification program, and that gives written assurance that an electric motor complies with the energy efficiency standard applicable to that motor, as specified in 10 CFR 431.42.

Certification program means a certification system that determines conformity by electric motors with the energy efficiency standards prescribed by and pursuant to the Act.

Certification system means a system, that has its own rules of procedure and management, for giving written assurance that a product, process, or service conforms to a specific standard or other specified requirements, and that

is operated by an entity independent of both the party seeking the written assurance and the party providing the product, process or service.

Covered equipment means industrial equipment of a type specified in section 340 of the Act.

CSA means CSA International.

Definite purpose motor means any motor designed in standard ratings with standard operating characteristics or standard mechanical construction for use under service conditions other than usual, such as those specified in NEMA Standards Publication MG1–1993, *Motors and Generators*, paragraph 14.03, ''Unusual Service Conditions,'' or for use on a particular type of application, and which cannot be used in most general purpose applications.

DOE or *the Department* means the Department of Energy.

Electric motor is defined as follows:

(1) ''Electric motor'' means a machine which converts electrical power into rotational mechanical power and which:

(i) is a general purpose motor, including but not limited to motors with explosion-proof construction;

(ii) is a single speed, induction motor (MG1);

(iii) is rated for continuous duty (MG1) operation, or is rated duty type S1 (IEC);

(iv) contains a squirrel-cage (MG1) or cage (IEC) rotor, and has foot-mounting, including foot-mounting with flanges or detachable feet;

(v) is built in accordance with NEMA T-frame dimensions (MG1), or IEC metric equivalents (IEC);

(vi) has performance in accordance with NEMA Design A (MG1) or B (MG1) characteristics, or equivalent designs such as IEC Design N (IEC); and

(vii) operates on polyphase alternating current 60-Hertz sinusoidal power, and:

(A) is rated 230 volts or 460 volts, or both, including any motor that is rated at multi-voltages that include 230 volts or 460 volts, or

(B) can be operated on 230 volts or 460 volts, or both.

(2) Terms in this definition followed by the parenthetical ''MG1'' must be construed with reference to provisions in NEMA Standards Publication MG1–1993, *Motors and Generators*, with Revisions 1, 2, 3 and 4, as follows:

(i) Section I, *General Standards Applying to All Machines*, Part 1, *Referenced Standards and Definitions*, paragraphs 1.16.1, 1.16.1.1, 1.17.1.1, 1.17.1.2, and 1.40.1 pertain to the terms ''induction motor,'' ''squirrel-cage,'' ''NEMA Design A,'' ''NEMA Design B,'' and ''continuous duty'' respectively;

(ii) Section I, *General Standards Applying to All Machines*, Part 4, *Dimensions, Tolerances, and Mounting*, paragraph 4.01 and Figures 4–1, 4–2, 4–3, and 4–4 pertain to ''NEMA T-frame dimensions;''

(iii) Section II, *Small (Fractional) and Medium (Integral) Machines*, Part 11, *Dimensions—AC and DC Small and Medium Machines*, paragraphs 11.01.2, 11.31 (except the lines for frames 447T, 447TS, 449T and 449TS), 11.32, 11.34 (except the line for frames 447TC and 449TC, and the line for frames 447TSC and 449TSC), 11.35, and 11.36 (except the line for frames 447TD and 449TD, and the line for frames 447TSD and 449TSD), and Table 11–1, pertain to ''NEMA T-frame dimensions;'' and

(iv) Section II, *Small (Fractional) and Medium (Integral) Machines*, Part 12, *Tests and Performance—AC and DC Motors*, paragraphs 12.35.1, 12.35.5, 12.38.1, 12.39.1, and 12.40.1, and Table 12–2, pertain both to ''NEMA Design A'' and ''NEMA Design B.''

(3) Terms in this definition followed by the parenthetical ''IEC'' must be construed with reference to provisions in IEC Standards as follows:

(i) IEC Standard 60034–1 (1996), *Rotating electrical machines*, Part 1: *Rating and performance*, with Amendment 1 (1997), Section 3: *Duty*, clause 3.2.1 and figure 1 pertain to ''duty type S1'';

(ii) IEC Standard 60050–411 (1996), *International Electrotechnical Vocabulary Chapter 411: Rotating machines*, sections 411–33–07 and 411–37–26, pertain to ''cage'';

(iii) IEC Standard 60072–1 (1991), *Dimensions and output series for rotating electrical machines—Part 1: Frame numbers 56 to 400 and flange numbers 55 to 1080*, clauses 2, 3, 4.1, 6.1, 7, and 10, and Tables 1, 2 and 4, pertain to ''IEC metric equivalents'' to ''T-frame'' dimensions; and

(iv) IEC Standard 60034–12 (1980), *Rotating electrical machines, Part 12: Starting performance of single-speed three-phase cage induction motors for voltages up to and including 660 V*, with Amendment 1 (1992) and Amendment 2 (1995), clauses 1, 2, 3.1, 4, 5, and 6, and Tables I, II, and III, pertain to ''IEC Design N.''

Enclosed motor means an electric motor so constructed as to prevent the free exchange of air between the inside and outside of the case but not sufficiently enclosed to be termed airtight.

EPCA means the Energy Policy and Conservation Act of 1975, as amended (42 U.S.C. 6291 *et seq.*).

General purpose motor means any motor which is designed in standard ratings with either:

(1) Standard operating characteristics and standard mechanical construction for use under usual service conditions, such as those specified in NEMA Standards Publication MG1–1993, paragraph 14.02, ''Usual Service Conditions,'' and without restriction to a particular application or type of application; or

(2) Standard operating characteristics or standard mechanical construction for use under unusual service conditions, such as those specified in NEMA Standards Publication MG1–1993, paragraph 14.03, ''Unusual Service Conditions,'' or for a particular type of application, and which can be used in most general purpose applications.

IEC means the International Electrotechnical Commission.

IEEE means the Institute of Electrical and Electronics Engineers, Inc.

ISO means International Organization for Standardization.

Manufacture means to manufacture, produce, assemble, or import.

NEMA means the National Electrical Manufacturers Association.

Nominal full load efficiency of an electric motor means a representative value of efficiency selected from Column A of Table 12–8, NEMA Standards Publication MG1–1993, that is not greater than the average full load efficiency of a population of motors of the same design.

Open motor means an electric motor having ventilating openings which permit passage of external cooling air over and around the windings of the machine.

Secretary means the Secretary of the Department of Energy.

Special purpose motor means any motor, other than a general purpose motor or definite purpose motor, which has special operating characteristics or special mechanical construction, or both, designed for a particular application.

Total power loss means that portion of the energy used by an electric motor not converted to rotational mechanical power, expressed in percent.

APPENDIX A TO SUBPART A OF 10 CFR PART 431, POLICY STATEMENT FOR ELECTRIC MOTORS COVERED UNDER THE ENERGY POLICY AND CONSERVATION ACT

This is a reprint of a policy statement which was published on November 5, 1997 at 62 FR 59978.

POLICY STATEMENT FOR ELECTRIC MOTORS COVERED UNDER THE ENERGY POLICY AND CONSERVATION ACT

I. INTRODUCTION

The Energy Policy and Conservation Act (EPCA), 42 U.S.C. 6311, *et seq.*, establishes energy efficiency standards and test procedures for certain commercial and industrial electric motors manufactured (alone or as a component of another piece of equipment) after October 24, 1997, or, in the case of an electric motor which requires listing or certification by a nationally recognized safety testing laboratory, after October 24, 1999.[1] EPCA also directs the Department of Energy (DOE or Department) to implement the statutory test procedures prescribed for motors, and to require efficiency labeling of motors and certification that covered motors comply with the standards.

Section 340(13)(A) of EPCA defines the term ''electric motor'' based essentially on the construction and rating system in the National Electrical Manufacturers Association (NEMA) Standards Publication MG1. Sections 340(13)(B) and (C) of EPCA define the terms ''definite purpose motor'' and ''special purpose motor,'' respectively, for

[1] The term ''manufacture'' means ''to manufacture, produce, assemble or import.'' EPCA section 321(10). Thus, the standards apply to motors produced, assembled, imported or manufactured after these statutory deadlines.